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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,231	02/03/2006	Roel Penterman	NL030981	9449

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EXAMINER
SESE, JASON A

ART UNIT	PAPER NUMBER
4174	

MAIL DATE	DELIVERY MODE
01/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DH JAN 10 2008

Office Action Summary	Application No. 10/567,231	Applicant(s) PENTERMAN ET AL.	
	Examiner Jason A. Sese	Art Unit 4174	

- The **MAILING DATE** of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 03 February 2006.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-13 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on February 3, 2006 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>8/15/2007; 2/3/2006</u>	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____ 5) <input type="checkbox"/> Notice of Informal Patent Application 6) <input type="checkbox"/> Other: _____
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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (U.S. 5,726,728).

4. The applicant claims a polymeric stratified-phase-separated composite comprising a film of a liquid, a layer of a polymerized material covering the film of liquid and supporting members formed of the polymerized material and extending from the layer of polymerized material through the film of liquid, the polymeric stratified- phase-separated composite being provided, with its film of liquid side, on a substrate surface having in accordance with a predetermined pattern selected first and second regions, the first regions being functionalized for selective accumulation of the polymerized material and the second regions being functionalized for selective accumulation of the liquid, wherein the supporting members extend selectively onto the selected first regions.

Kondo et al. disclose a method for forming a phase separated structure within a liquid crystal display, wherein a polymer and liquid crystal solution are separated through differing

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surface energies on the substrate, and then polymerized by flood exposure of UV rays to produce supporting members on specific patterned regions (col. 15, lines 24-53).

Kondo also disclose the addition of a photopolymerization inhibitor to the polymerizable monomers, in order to slow the polymerization of the polymeric walls until the phase separation is completed (col. 24, lines 4-16).

As shown above, it is known in the art to affect the migration of the liquid crystal and polymerizable material through modifying the substrate surface energies. It would have been an obvious and well within the domain for one of ordinary skill in the art, to use the same principle to functionalize certain areas of the substrate with reactive groups having affinity for one material over the other. It is also shown that the rate of polymerization can be adjusted, to achieve optimum results under a flood exposure.

5. Claims 1-3 and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (U.S. 5,739,882), Onishi et al. (U.S. 5,624,974) or Nakao et al. (U.S. 6,486,932).

Shimizu et al. describe a process for producing a structure similar as claimed by applicant, wherein the hydrophobic and hydrophilic areas on the substrate produce separation of the polymerizable resin and liquid crystal (col. 13, lines 1-36).

Onishi et al. disclose that a substrate may be patterned with a material having different surface energy to affect positioning of liquid crystal material (col. 3, lines 46-63).

Nakao et al. produce a structure similar to that claimed by the applicant by treating a pair of substrates to control the wettability of each, with respect to the liquid crystal and prepolymer (col. 5, lines 1-32).

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Taking the any of the above cited references, it would have been obvious to one of ordinary skill in the art to produce the structure as claimed through an alternative method of selective separation of the liquid crystal phase and polymer phase on the substrate, including chemical functionalization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason A. Sese whose telephone number is (571)270-3473. The examiner can normally be reached on Mon-Thurs, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/
Primary Examiner, Art Unit 4174

Jason A. Sese
Examiner
Art Unit 4174

/J. A. S./